

PG3749USW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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In re application of: Clayton et al.

Intl. Serial No.: 10/049,142

Group Art Unit: 1617

Intl. File Date: February 5, 2002

Examiner: M. Bahar

For: Use of EP4 Receptor Ligands in the Treatment of Neuropathic Pain and Colon Cancer

Director of the U.S. Patent and Trademark Office

P.O. Box 1450

Alexandria, VA 22313-1450

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Applicants request that the references identified on Form PTO-1449 appended hereto be considered by the Examiner and officially made of record in accordance with the provisions of 37 CFR 1.97

☒ Copies of the references are enclosed: 1-15

☐ Copies of the references were submitted in parent application Serial No. \_\_\_\_\_ (37 CFR 1.98(d))

☐ A copy of the International Search Report which issued on International Application No. \_\_\_\_\_ is submitted herewith. All of the publications cited in the International Search Report are listed on the attached form PTO-1449 and Applicants understand that copies have been supplied to the U.S. Patent Office by the International Bureau.

A. ☐ The Information Disclosure Statement submitted herewith is being filed within three months of the filing date of the above application or date of entry into the national stage of an international application or before the mailing date of a first Office action on the merits, whichever event occurs last. 37 CFR 1.97(b).

OR

☐ The Information Disclosure Statement submitted herewith is being filed before the mailing of a first office action after the filing of a Request For Continued Examination under 37 C.F.R. 1.114 (37 C.F.R. 1.97(b)(4)).

B. ☒ The Information Disclosure Statement transmitted herewith is being filed **after** three months of the filing date of the above application or the date of entry into the national stage as set forth in § 1.491 of an international application or after the mailing date of the first Office Action on the merits, whichever event occurred last, but **before** the mailing date of either:  
(1) a final action under § 1.113 or  
(2) a notice of allowance under § 1.311, whichever occurs first.

☐ Applicant hereby certifies that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.

☐ Applicant elects the option to pay the fee set forth in 37 CFR 1.17(p) for submission of an Information Disclosure Statement under § 1.97(c) (\$180.00).

C. ☐ The Information Disclosure Statement transmitted herewith is being filed **after** a final action under § 1.113, or a notice of allowance under § 1.311, whichever occurs first, but before the payment of the issue fee. Also enclosed is a copy of the International Search Report which Issued on International Publication No.

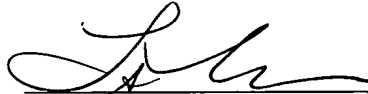
In accordance with the requirements of 37 CFR 1.97(d):

- ☐ Applicant hereby certifies that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- ☐ Applicant hereby petitions for the consideration of the accompanying Information Disclosure Statement. 37 CFR 1.97(d)(ii).
- ☐ The petition fee set forth in § 1.17(i)(1) (\$130.00) is submitted herewith.

☒ Please charge any required fees to Deposit Account No.07-1392.

☐ A duplicate copy of this paper is attached.

Respectfully Submitted,



Lorie Ann Morgan

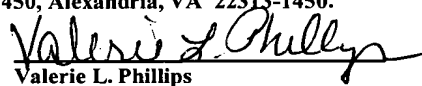
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**CERTIFICATE OF MAILING (37 CFR 1.8)**

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to the: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: 2/12/04

  
Valerie L. Phillips

<b>FORM PTO-1449</b> <b>INFORMATION DISCLOSURE STATEMENT</b>				<b>ATTORNEY DOCKET NO.</b> PG3749USW		<b>SERIAL NO.</b> 10/049,142	
				<b>APPLICANT:</b> Clayton et al.			
				<b>FILING DATE:</b> February 5, 2002		<b>GROUP</b> 1617	
<b>U.S. PATENT DOCUMENTS</b>							
Examiner Initials		Patent Number	Issue Date	Name	Class	Subclass	Filing Date If Appropriate
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<b>FOREIGN PATENT DOCUMENTS</b>							
		Document Number	Publication Date	Country	Class	Subclass	Translation Yes   No
Continue on page _____							
<b>OTHER DOCUMENTS (Including Author, Title, Journal-Date, Page Number, Etc.)</b>							
	1	Takakazu, Oka., et al. "Biphasic modulation in the trigeminal nociceptive neuronal responses by the intracerebroventricular prostaglandin E2 may be mediated through different ep receptors subtypes in rates." Elsevier Science Brain Research 771 (1997) pages 278-284.					
	2	Fedyk, Eric R., et al. "A molecular analysis of PGE receptor (EP) expression on normal and transformed B Lymphocytes: comexpression of EP <sub>1</sub> , EP <sub>2</sub> , EP <sub>3</sub> and EP <sub>4</sub> ." Molecular Immunology Vol 33, No.1 pages 33-45 1996 Elsevier Science.					
	3	Zeng, Li, et al. "Selective Regulation of RNK-16 cell Matrix Metalloproteinases by the EP <sub>4</sub> subtype of prostaglandin E <sub>2</sub> receptor." American Chemical Society, Biochemistry 1996 Vol 35 pages 7159 - 7164					
	4	Coleman, R.A., et al. "A Novel inhibitory prostanoid receptor in piglet saphenous vein." Butterworth-Heinemann - Prostaglandins 1994 Vol 47 pages 151 - 168.					
	5	Mori, K., et al. "Gene Expression of the human prostaglandin E receptor EP <sub>4</sub> subtype: differential regulation in monocytoid and lymphoid lineage cells by phorbol ester." J. Mol Med 1996, Vol 74 pages 333-336.					
	6	Ono, K., et al. "Important role of EP <sub>4</sub> a subtype of prostaglandin (PG) E receptor, in osteoclast-like cell formation from mouse bone marrow cells induced by PGE <sub>2</sub> ." Jm of Endocrinology 1998, 158., pages R1-R5.					
	7	Fedyk, R. Eric., et al. "Prostaglandin E <sub>2</sub> receptors of the EP <sub>2</sub> and EP <sub>4</sub> subtypes regulate activation and differentiation of mouse B lymphocytes to IgE-secreting cells." Proc Natl acad Sci USA Vol 93 pages 10978-10983 Oct 1996 Immunology.					
	8	Arakawa, T., et al. "Prostanoid receptors of Murine NIH 3T3 and RAW 264.7 Cells." The American Soc of Biochemistry & Molecular biology Inc Vol 271 Number 47 Issue Nov 22 1996 pages 29569-29575.					
	9	Mori, K., et al. "Gene expression of the human prostaglandin E receptor EP <sub>4</sub> subtype: differential regulation in monocytoid and lymphoid lineage cells by phorbol ester." J. Mol Med 1996 74: pages 333-336.					
	10	Sato, T., et al. "Prostaglandin E <sub>2</sub> mediates parathyroid hormone induced osteoclast formation by cyclic AMP independent Mechanism." Eicosanoids and other Bioactive Lipids in cancer inflammation & Radiation Injury 3, edited by Honn et al Plenum Press New York 1997 pages 383 -386 No 57.					
	11	Minami, T., et al. "Characterization of EP-receptor subtypes involved in allodynia & hyperalgesia induced by intrathecal administration of prostaglandin E <sub>2</sub> to mice." Br J Pharmacol (1994) 112, pages 735-740.					
	12	Minami, T. et al "Blockade by ONO-NT-012 a unique prostanoid analogue of prostaglandin E <sub>2</sub> -induced allodynia in conscious mice." Br Jm of Pharmacology 1995 115, pages 73-76.					
	13	Nishigaki, N. et al. "Two G <sub>s</sub> -Coupled prostaglandin E receptor subtypes, EP <sub>2</sub> and EP <sub>4</sub> differ in desensitization and sensitivity to the metabolic inactivation of the agonist." The Amer Soc for Pharma & Exper Thera. Molecular Pharmacology 50: pages 1031-1037 (1996).					
	14	Marshall, F., et al. "Characterization of [ <sup>3</sup> H]-Prostaglandin E <sub>2</sub> Bind to Prostaglandin EP <sub>4</sub> Receptors Expressed with Semliki Forest Virus." Bristish Journal of Pharmacology, 121:1673-1678 (1997).					
	15	Coleman, R., et al. "EP <sub>4</sub> -Receptors and Cyclic AMP in Pig Venous Smooth Muscle: Evidence with Agonists and the EP <sub>4</sub> -Antagonist, AH22921." Advances in Prostaglandin, Thromboxane, and Leukotriene Research. 23:241-246 (1995).					
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EXAMINER					DATE CONSIDERED		
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.							